

WHAT IS CLAIMED IS:

1 1. A method for configuring a portable and/or mobile host that powers up in a
2 foreign network to connect to the Internet, comprising the steps of
3 creating a bootstrapping agent that works cooperatively with a M-IP home agent to
4 allocate a temporary home address to said portable and/or mobile host,
5 using the M-IP protocol to contact said M-IP home agent and request said
6 bootstrapping agent to allocate said temporary home address to said portable and/or mobile
7 host, and
8 using said temporary home address to create a temporary tunnel between a foreign
9 agent associated with said portable and/or mobile host and said M-IP home agent, wherein
10 said temporary tunnel is used to communicate configuration information including a
11 permanent home address allocated by the DHCP protocol for said portable and/or mobile
12 host to connect to the Internet.

1 2. The method of claim 1 wherein said foreign agent is co-located with said mobile
2 host.

1 3. The method of claim 1 wherein said foreign agent is located on a device that is
2 external to said mobile host and resides in said foreign network.

1 4. The method of claim 1 wherein said bootstrapping agent is arranged to assign IP
2 addresses from an address pool of private addresses.

1 5. The method of claim 4 wherein private addresses are in the format 10.*.

1 6. The method of claim 1 wherein said bootstrapping agent is arranged to assign IP
2 addresses from an address pool of public addresses.

1 7. The method of claim 1 wherein a DHCP client located on said portable and/or
2 mobile host is used to generate messages requesting said configuration information from a
3 DHCP server via said temporary tunnel.

1 8. The method of claim 7 wherein said messages generated by said DHCP client
2 are modified at said portable and/or mobile host to have a format consistent with a DHCP
3 relay.

1 9. A method for enabling a mobile host without an IP home address to connect to
2 the Internet when powering up in a foreign network, comprising the steps of
3 obtaining a temporary IP home address for said mobile host from an IP address
4 source accessible through a mobile IP home agent,
5 establishing a transient tunnel between said mobile IP home agent and a mobile IP
6 foreign agent associated with said mobile host while in said foreign network, using said
7 temporary IP home address,
8 acquiring, via said transient tunnel, configuration parameters including a permanent
9 IP home address from a DHCP server in the home network of said mobile host,
10 replacing said transient tunnel with a new tunnel between said mobile IP home agent
11 and said mobile IP foreign agent using said permanent IP home address.

1 10. A method for enabling configuration of a portable host device that powers up in
2 a foreign network to communicate using the Internet, said method comprising the steps of
3 communicating a temporary home address to said portable host device from a
4 bootstrapping agent operating cooperatively with a mobile IP home agent that serves said
5 portable host device when it operates in said foreign network,
6 establishing a transient bidirectional communication link between said portable host
7 device and said mobile IP home agent using the M-IP protocol and said temporary home
8 address, and

9 obtaining a permanent address from a DHCP server via said transient bidirectional
10 communication link, wherein said permanent address is used thereafter to configure said
11 portable host to communicate with the Internet.

1 11. The method defined in claim 10 wherein additional configuration parameters are
2 provided to said portable host device via said transient bidirectional communication link.

1 12. In a mobile telecommunications system in which a portable and/or mobile host
2 device can operate in a home network that includes a home agent or in a foreign network
3 that includes a foreign agent, a method for configuring said portable and/or mobile host
4 when it powers up in said foreign network, said method comprising the steps of
5 using the M-IP protocol in said portable and/or mobile host as the signaling
6 mechanism for reaching said home network and dynamically allocating a temporary home
7 address; and

8 thereafter using DHCP with the temporary home address to allocate a permanent
9 home address and other configuration state for said portable and/or mobile host.

1 13. A method for configuring a mobile host that powers up in a foreign network,
2 comprising the steps of

3 setting up a temporary IP tunnel via the Mobile IP protocol to connect said mobile
4 host to its home network,

5 using an IP broadcasting protocol over said temporary IP tunnel so that said mobile
6 host can discover a DHCP addressing server in its home network, and

7 using the DHCP protocol to communicate addressing and configuration information
8 between said addressing server and said mobile host.

1 14. In a system arranged to use an IP tunnel to relay via the Internet communication
2 packets that are destined to a mobile host from a home server in said host's home network
3 to a foreign server when said host is in a foreign network, wherein the establishment of said

